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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,745	07/10/2006	Ursula Ziegler	CICTG-23-PCT-US 2003/G018	3493
22827	7590	02/03/2010	EXAMINER	
DORITY & MANNING, P.A. POST OFFICE BOX 1449 GREENVILLE, SC 29602-1449			FREEMAN, JOHN D	
			ART UNIT	PAPER NUMBER
			1794	
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			02/03/2010	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/584,745	<b>Applicant(s)</b> ZIEGLER ET AL.	
	<b>Examiner</b> John Freeman	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-4, 7-17, 19, 21 and 22 is/are pending in the application.
- 4a) Of the above claim(s) 15-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-4, 7-14, 19, 21 and 22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4 Dec 2009 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. Claims 2-4, 7, 13-14, 19, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pflegler (US 5,792,532) in view of Memon et al. (US 5,451,624).

3. Regarding claims 2-3, 7, 13-14, and 21-22:

4. Pflegler discloses polymer tubing (col 1 ln 5-11). One embodiment comprises an outer layer of polyamide elastomer and an inner layer of polyoxymethylene (POM) copolymer (claim 30). Pflegler teaches the tubing can be made by coextrusion or blow molding (col 1 ln 15-22).

5. The POM includes impact modifiers (col 4 ln 56-60).

6. Pflegler is silent with regard to specific core-shell modifiers.

7. Impact modifiers based on methyl methacrylate-butadiene-styrene (MBS) core-shell polymers were well known. For example, Memon discloses the use of these polymers to improve the toughness of POM (col 2 ln 54-68). Memon teaches a loading of 5-50% by weight (col 3 ln 41-43).

8. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use MBS core-shell polymers with the POM layer of Pflegler to improve the impact resistance and toughness of said layer.

9. The present claims are written in a product-by-process format. The examiner takes the position that the final composite structure of the tubing taught by Pflegler combined with Memon would be indistinguishable from the final product of the presently claimed invention, as both describe a layer of POM adhesively bonded to a polyamide elastomer.

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10. With regard to the presently claimed tensile bond strength limits, the examiner takes the position that the composite tubing of Pfleger combined with Memon intrinsically satisfies Applicant's requirements given that the composite has the same structure as claimed.

11. Regarding claim 4:

12. The layers comprise modifiers such as stabilizers, plasticizers, pigments, impact modifiers, and conductivity modifiers (col 4 ln 56-60).

13. Regarding claim 19:

14. Tubing is a connector.

15. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfleger (US 5,792,532) in view of Memon et al. (US 5,451,624) as applied to claims 2-4, 7, 13-14, 19, 21, and 22 above, and further in view of Tanaka et al. (US 4,376,856).

16. Pfleger in view of Memon disclose a composite comprising a modified polyacetal and a polyetheramide elastomer as explained.

17. They are silent with regard to the composition of the polyetheramide elastomers.

18. Regarding claims 9-12:

19. Elastomers having the presently claimed structures were well-known in the art. For example, Tanaka et al. (hereafter Tanaka) disclose polyetheramide elastomers containing (A) aminocarboxylic acid, (B) polyoxyalkylene glycol, and (C) dicarboxylic acid (col 1 ln 60-68). Such a polyetheramide would comprise repeating units corresponding to the presently claimed (I) and (III). The aminocarboxylic acids include aliphatic compounds such as 11-aminoundecanoic acid, which forms nylon-11 (col 2 ln 15-27). (B) can be polyethylene glycol, polypropylene glycol, or polytetramethylene glycol (col 2 ln 28-36).

20. Tanaka discloses polyetheramides have excellent properties such as impact resistance and elasticity (col 1 lines 52-55).

21. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use conventional polyetheramide elastomers, e.g. as taught by Tanaka, as the polyetheramide elastomer in

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the composite taught by Pfleger to arrive at a composite having desirable qualities such as excellent impact resistance and elasticity.

22. Regarding claim 8:

23. Given the polyetheramide elastomer taught by Tanaka is the same that presently claimed, the examiner takes the position that the elastomer of Tanaka intrinsically has a hardness within the presently claimed range.

24. Claims 2-4, 7, 13-14, 19, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mutsuda (US 6,517,949) in view of Memon et al. (US 5,451,624).

25. Regarding claims 2-3, 7, 13-14, 19, and 21-22:

26. Mutsuda discloses a composite having (A) a POM layer and (B) a thermoplastic elastomer layer (col 1 ln 51-65). The elastomer includes polyamide-based elastomers (col 3 ln 41). The POM can include conventional additives known in the art (col 2 ln 54-60).

27. Mutsuda is silent with regard to specific core-shell modifiers.

28. Impact modifiers based on methyl methacrylate-butadiene-styrene (MBS) core-shell polymers were well known. For example, Memon discloses the use of these polymers to improve the toughness of POM (col 2 ln 54-68). Memon teaches a loading of 5-50% by weight (col 3 ln 41-43).

29. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use MBS core-shell polymers with the POM layer of Mutsuda to improve the impact resistance and toughness of said layer.

30. The present claims are written in a product-by-process format. The examiner takes the position that the final composite structure of the tubing taught by Mutsuda combined with Memon would be indistinguishable from the final product of the presently claimed invention, as both describe a layer of POM adhesively bonded to a polyamide elastomer.

31. With regard to the presently claimed tensile bond strength limits, the examiner takes the position that the composite tubing of Mutsuda combined with Memon intrinsically satisfies Applicant's requirements given that the composite has the same structure as claimed.

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32. Regarding claim 4:

33. The layers comprise modifiers such as stabilizers, plasticizers, etc. (col 2 ln 54+; col 4 ln 1+).

34. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mutsuda (US 6,517,949) in view of Memon et al. (US 5,451,624) as applied to claims 2-4, 7, 13-14, 19, 21, and 22 above, and further in view of Tanaka et al. (US 4,376,856).

35. Mutsuda in view of Memon disclose a composite comprising a modified polyacetal and a polyetheramide elastomer as explained.

36. They are silent with regard to the composition of the polyetheramide elastomers.

37. Regarding claims 9-12:

38. Elastomers having the presently claimed structures were well-known in the art. For example, Tanaka et al. (hereafter Tanaka) disclose polyetheramide elastomers containing (A) aminocarboxylic acid, (B) polyoxyalkylene glycol, and (C) dicarboxylic acid (col 1 ln 60-68). Such a polyetheramide would comprise repeating units corresponding to the presently claimed (I) and (III). The aminocarboxylic acids include aliphatic compounds such as 11-aminoundecanoic acid, which forms nylon-11 (col 2 ln 15-27). (B) can be polyethylene glycol, polypropylene glycol, or polytetramethylene glycol (col 2 ln 28-36).

39. Tanaka discloses polyetheramides have excellent properties such as impact resistance and elasticity (col 1 lines 52-55).

40. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use conventional polyetheramide elastomers, e.g. as taught by Tanaka, as the polyetheramide elastomer in the composite taught by Mutsuda to arrive at a composite having desirable qualities such as excellent impact resistance and elasticity.

41. Regarding claim 8:

42. Given the polyetheramide elastomer taught by Tanaka is the same that presently claimed, the examiner takes the position that the elastomer of Tanaka intrinsically has a hardness within the presently claimed range.

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***Claim Rejections - 35 USC § 112***

43. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

44. Claims 2-4, 7-14, 19, and 21-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

45. Independent claim 21 recites a comprising "at least one thermoplastic elastomer...the thermoplastic elastomer consisting essentially of at least one polyamide elastomer." While the specification provides support for a thermoplastic polyamide elastomer, it does not seem to provide support for the more general disclosure of "at least one thermoplastic elastomer." The examiner suggests Applicant states "at least one thermoplastic polyamide elastomer...the thermoplastic polyamide elastomer consisting essentially of at least one polyamide elastomer."

***Response to Arguments***

46. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Freeman whose telephone number is (571)270-3469. The examiner can normally be reached on Monday-Friday 7:30-5:00PM EST (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571)272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John Freeman  
Examiner  
Art Unit 1794

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Examiner, Art Unit 1794

/Callie E. Shosho/  
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